

SMARTRACING™ PRODUCTS

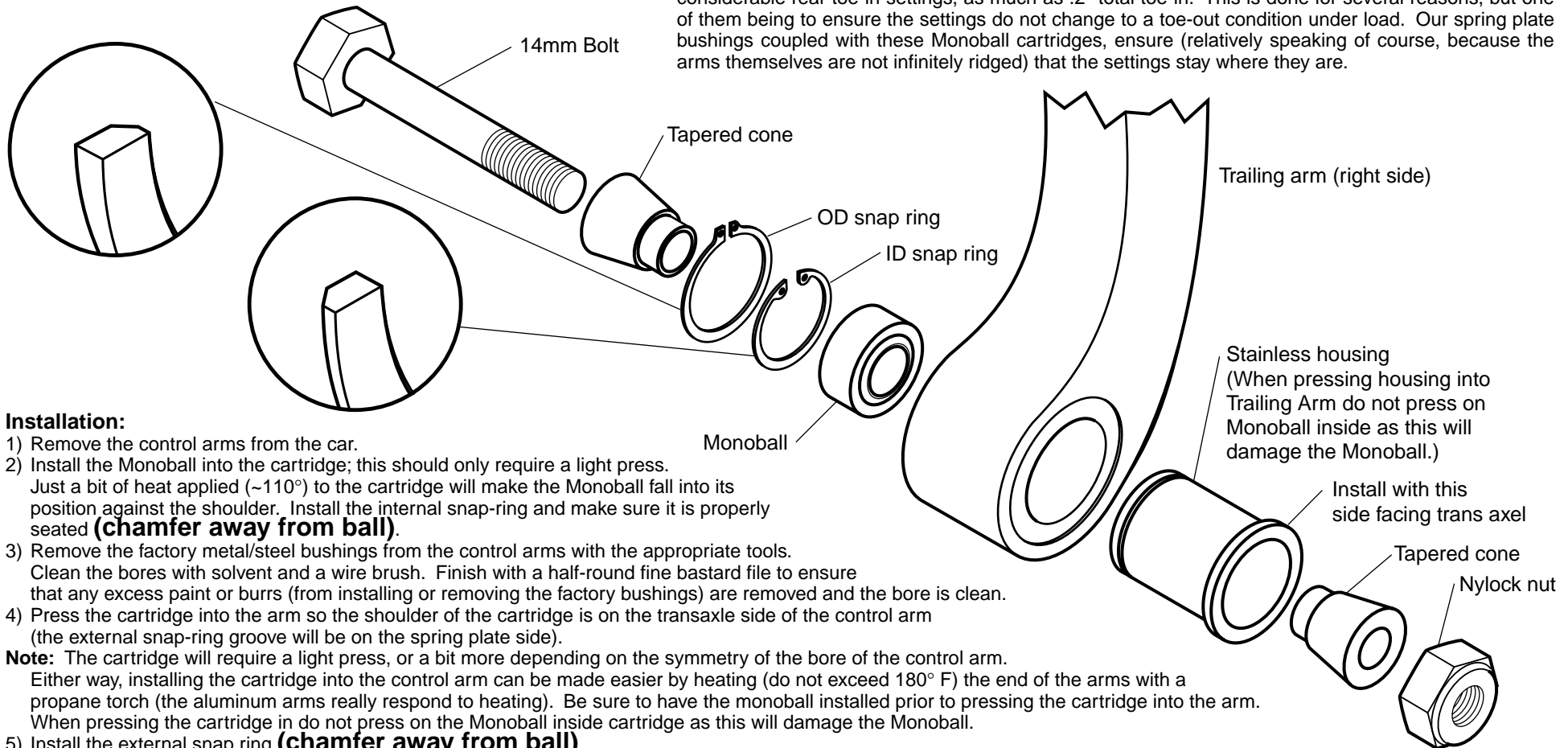
A Company Developing Smart Racing
Products Through Engineering

Rear Control Arm Monoball
Cartridge – Part No. 552101

Installation Instructions Rear Control Arm Monoball Cartridge

Overview:

The theory of replacing the factory inner rubber bushing on the control arm is two fold; 1) provide a wider range of adjustment for toe and camber settings without putting the inner bushings in a bind, and 2) provide positive action for the arm without the compliance problem associated with rubber. One of the most important things that can be done to 911 and 930 rear control arms is to make the pivot points more positive (ie, the spring plate bushings and the inner bushings). Why? When these cars are cornered hard or exposed to sever braking, the arm tends to pull or push themselves back in their mounts, which causes a toe change. If you read the rear suspension settings for these cars, they have considerable rear toe-in settings, as much as .2" total toe-in. This is done for several reasons, but one of them being to ensure the settings do not change to a toe-out condition under load. Our spring plate bushings coupled with these Monoball cartridges, ensure (relatively speaking of course, because the arms themselves are not infinitely ridged) that the settings stay where they are.



Installation:

- 1) Remove the control arms from the car.
- 2) Install the Monoball into the cartridge; this should only require a light press. Just a bit of heat applied (~110°) to the cartridge will make the Monoball fall into its position against the shoulder. Install the internal snap-ring and make sure it is properly seated (**chamfer away from ball**).
- 3) Remove the factory metal/steel bushings from the control arms with the appropriate tools. Clean the bores with solvent and a wire brush. Finish with a half-round fine bastard file to ensure that any excess paint or burrs (from installing or removing the factory bushings) are removed and the bore is clean.
- 4) Press the cartridge into the arm so the shoulder of the cartridge is on the transaxle side of the control arm (the external snap-ring groove will be on the spring plate side).

Note: The cartridge will require a light press, or a bit more depending on the symmetry of the bore of the control arm.

Either way, installing the cartridge into the control arm can be made easier by heating (do not exceed 180° F) the end of the arms with a propane torch (the aluminum arms really respond to heating). Be sure to have the monoball installed prior to pressing the cartridge into the arm. When pressing the cartridge in do not press on the Monoball inside cartridge as this will damage the Monoball.

- 5) Install the external snap ring (**chamfer away from ball**).

Note: If there is a space between the control arm and the snap-ring greater than .005", then a shim should be made.

- 6) Push the taper cones into the monoball and reinstall the control arm in its pivot box. Torque the nut on the 14mm pivot bolt to 60 NM (44 ft-lbs.).

Questions or comments please call 408.369.9997 or FAX 408.369.9741

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